

10/535334

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number  
**WO 2004/046305 A3**

(51) International Patent Classification<sup>7</sup>: C12Q 1/00, 1/68

[US/US]; 2830 Hillscourte South, Roseville, MN 55113 (US).

(21) International Application Number:

PCT/SG2003/000261

(74) Agent: WATKIN, Timothy, Lawrence, Harvey; Lloyd Wise, Tanjong Pagar, P.O. Box 636, Singapore 910816 (SG).

(22) International Filing Date:

10 November 2003 (10.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/427,148 18 November 2002 (18.11.2002) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant (*for all designated States except US*): AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH [SG/SG]; 20 Biopolis Way, #07-01 Centros, Singapore 138668 (SG).

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): XU, Guolin [CN/SG]; Blk 436 Woodlands Street 41 #12-398, Singapore 730436 (SG). MAO, Pei-Lin [CA/SG]; 2B Hong San Walk #16-01 Palm Garden, Singapore 689048 (SG). YU, Yuan, Hong [MY/SG]; Blk 138 Bishan Street 12 #06-456, Singapore 570138 (SG). LAO, Yuanzhi [CN/SG]; Blk 5 West Coast Walk, #22-04 West Peak Condominium, Singapore 127146 (SG). ZHANG, Chunyang [CN/SG]; 134B West Coast Way, Singapore 127064 (SG). KWAN, Meng, Hui [SG/SG]; 32 Eng Kong Garden, Singapore 599248 (SG). SAW, Lin Kiat [MY/SG]; Blk 359 Clementi Avenue 2 #10-307, Singapore 120359 (SG). TING, Dor, Ngi [MY/SG]; 39 Marine Parade Road, #05-01 Parkway View, Singapore 449265 (SG). POLLA, Dennis, Lee

#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

12 August 2004

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: METHOD AND SYSTEM FOR CELL AND/OR NUCLEIC ACID MOLECULES ISOLATION

(57) Abstract: The present invention relates to methods and system for tissue cell and/or nucleic acid molecule isolation. In particular, to a method for isolating nucleic acid molecules from tissue samples comprising: i) treating a tissue sample with at least one enzyme for tissue dissociation; ii) adding a lytic solution; and iii) isolating nucleic acid molecules. The method further comprises a step of applying hydrodynamic shear force to the product of step (i). The methods and/or system according to the invention are adaptable for use with micromechanical and/or automated processes.

WO 2004/046305 A3

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/SG 03/00261-0

## CLASSIFICATION OF SUBJECT MATTER

IPC<sup>7</sup>: C12Q 1/00, 1/68

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC<sup>7</sup>: C12Q 1/00, 1/68

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, CAS, Medline

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 1999/060005 A1 (FSM TECHNOLOGIES LIMITED) 25 November 1999 (25.11.1999) <i>page 1, line 1 - page 2, line 11; page 5, lines 3-22; claims 1,4.</i>	1-30, 32-46
X	VAN BURIK, J.A. et al. Comparison of six extraction techniques for isolation of DNA from filamentous fungi. Medical mycology, 1998, Vol. 36, No. 5, pages 299 - 303, Medline-abstract [online], [retrieved on 30 March 2003 (30.03.2003) ]. Retrieved from: EPOQUE Medline Database, AN: NLM10075499 <i>abstract.</i>	1,2,6-14,35-46

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents:

„A“ document defining the general state of the art which is not considered to be of particular relevance

„E“ earlier application or patent but published on or after the international filing date

„L“ document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

„O“ document referring to an oral disclosure, use, exhibition or other means

„P“ document published prior to the international filing date but later than the priority date claimed

„T“ later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

„X“ document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

„Y“ document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

„&“ document member of the same patent family

Date of the actual completion of the international search

30 March 2004 (30.03.2004)

Date of mailing of the international search report

18 June 2004 (18.06.2004)

Name and mailing address of the ISA/AT

Austrian Patent Office

Dresdner Straße 87, A-1200 Vienna

Facsimile No. 1/53424/535

Authorized officer

MOSSER R.

Telephone No. 1/53424/437

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/SG 03/00261-0

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
A			none	
WO	A	19990600 05	none	